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EXAMINER
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ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/897,870	SOMMER, RAINER
Office Action Summary	Examiner	Art Unit	
	Ryan P. Fiegle	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
> Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 September 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-32</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-32</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/1/06

has been entered.

Claim Rejections - 35 USC § 112

2.   The examiner acknowledges and accepts the cancellation of limitations in claims

1, 6, and 10 to correct the 112 issues.

New Claim Objections

3.   Claims 1, 3, 6 and 10 are objected to because of the following informalities:

These claims refer to "a hardware". The examiner does not believe that "a hardware"

can be referred to. However, "*the* hardware" or "a hardware *component*" may be

referred to. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1- 4, 6- 8, 10-14 and 16-32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Titherley, U.S. 4,489,414 in view of The Plug and Play ISA

Specification, a joint publication by Intel and Microsoft herein referred to as PnPISA and

"Transforming the PC: Plug and Play" by Halfhill, herein referred to as Halfhill.

6.   As per claim 1, Titherley teaches a method for controlling a run of a program

executable on at least one microprocessor (Titherley: 8085A Microprocessor, figure 2)

of a microcontroller, comprising the steps of:

        a.   Reading in information regarding a hardware of the microcontroller from at

        least one information register of the microcontroller: Module 7, EPROM 2716, is

        an information register that contains initialization routines to configure ports 12

        and 13, to cause the peripheral to start the disc drive motor, to cause the display

        to display different messages and to prompt the user, and to make the

        microprocessor wait for data to be entered via the keyboard. The routines that

        are read in are information regarding hardware of the microcontroller. [Titherley:

        Column 4, lines 25-64]

        b.   And actuating at least one switch via which the program run is controlled

        as a function of the information read in: The I/O ports 12 and 13 are reconfigured

        by the information read in, which is an actuation of at least one switch. A signal

        is set to the peripheral to start the motor, which is also an actuation of a switch.

        The displays are altered to display different messages, which is an actuation of a

The displays are altered to display different messages, which is an actuation of a

switch as well. Each of these is caused by the information read in and affect the

way the program is controlled. [Titherley: Column 4, lines 25-64]

Titherley does not teach program execution only depending on information in the

at least one information register of the microcontroller, which is special for each

microcontroller step without other external or operator influences.

It is the opinion of the examiner that all this simply describes is the functionality of

Plug and Play, a term coined by (though not explicitly trademarked) Microsoft and Intel

prior to the release of Windows95. Plug and Play was developed by Microsoft in

conjunction with Intel and other hardware manufactures with the intent to be able to plug

in a peripheral and not have to do anymore external configuration (i.e. jumpers,

switches) or software configuration (i.e. config files). While the idea was actually

originated by Macintosh and bus protocols such as EISA and MCA, Plug and Play was

the ISA that brought the concept into the mainstream.

The idea behind plug and play is to be able to isolate and identify each

component connected to the system and then configure it to work with that system

(PnPISA: 3.2-3.3.2).

The advantages of using a plug and play like functionality are plentiful and

apparent (PnPISA: 1.1). An article sent to the applicant by Halfhill also outlines other

aspects brought on by plug and play, mainly financial savings spurred by decreased

complexity, which lowered tech support costs.

It is easy to see that this aspect has trickled into other portions of computing. Applied to Titherley, this would mean that user input would no longer be necessary since the system would be able to detect what the device was and what test needed to be performed; the steps outlines in Titherley column 4, lines 46-64 would be automated. This is similar to the PnP power-on self-test, or POST.

Therefore, it would have been obvious to one of ordinary skill in the pertinent art at the time of the applicant's invention that applying plug and play functionality to Titherley would be able reduce the complexity of the system, which is a burden to the user, and thus automate the system.

7.   As per claim 2, Titherley teaches the method according to claim 1, wherein: the information read in corresponds to at least one of the at least one microprocessor of the microcontroller and at least one additional component of the microcontroller. The information read in corresponds to the Ports 12 and 13, an additional component of the microcontroller, because the information is used for initializing them. [Titherley: Column 4, lines 25-64]

8.   As per claim 3, Titherley teaches the method according to claim 1, further comprising the step of:

    c.   Controlling a run of a test program that is executable on the at least one microprocessor of the microcontroller of a testing device and is for testing at least one of an additional microcontroller of a control unit: The test program is for testing the peripheral (in the example, a disc drive). [Titherley: Column 3, lines 4-5 and column 4, line 65 to column 5, line 40].

d.   And a control program executable on at least one microprocessor of the additional microcontroller: The disc drive receives signals that make up commands from the microprocessor 8085A and I/O ports 12 and 13. The disc drive executes the commands it receives, the commands therefore making up an executable control program. Microprocessor is defined as, "An integrated circuit that contains the logic elements for manipulating data and for making decisions." (The Authoritative Dictionary of IEEE StandardsTerms, 7th ed.) The disc drive receives signals and decides how to handle the signals, i.e., start the motor, read, write, etc. The disc drive also writes data to different areas of a disc, sometimes overwriting old data, and therefore is manipulating data. Therefore, a disc drive inherently has a microprocessor, which is executing the control program.

e.   The controlling being performed as a function of information regarding a hardware of the additional microcontroller: The controlling being performed is a function of information entered by the user regarding the disc drive's hardware specifications. [Titherley: Column 4, lines 46-64]

9.   As per claim 4, Titherley teaches the method according to claim 1, further comprising the step of:

f.   Controlling a run of a control program that is executable on the at least one microprocessor of the microcontroller of a control unit: The user inputs information that controls the run of the control program that is executable on the microprocessor 8085A. [Titherley: Column 4, lines 46-64]

g.   And is for controlling/regulating technical operations and processes: The

control program receives information from the user about the specifications of the

disc drive. This is for controlling communications with the disc drive, which are

technical operations and processes. [Titherley: Column 4, lines 46-64]

h.   The controlling being performed as a function of the information regarding

the hardware of the microcontroller. Communication with the peripheral occurs

through ports 12 and 13, which was part of the information regarding the

hardware of the microcontroller. [Titherley: Column 4, lines 25-45]

10.   As per claim 6, Titherley teaches a control element for one of a control unit of an

internal combustion engine, the control element including a microcontroller, and a

testing device for testing at least one of the microcontroller, the control unit including the

microcontroller, and a program executable on at least one microprocessor of a

microcontroller, the control element comprising:

-The "internal combustion engine" of the preamble is given no patentable weight

because it is an intended use and has no further mention or disclosure in the

body of the claim.

i.   A storage medium (Titherley: Figure 2, 2716 EPROM) storing a program

sequence that can be executed on a computing element (Titherley: Figure 2,

Microprocessor 8085A), the program sequence causing the computing element

to: [Titherley: Column 3, line 66 to column 4, line 6, column 4, lines 25 to column

5, line 14]

j.   Read in information regarding a hardware of the microcontroller from at

least one information register of the microcontroller: EPROM 2716 is made up of

addressable memory locations (i.e., registers), which contain information

regarding hardware of the microcontroller (all of figure 2 except the peripheral

under test, module 8). [Titherley: Column 4, lines 25 to column 5, lines 14]

k.   And actuate at least one switch via which a program run is controlled as a

function of the information read in: The I/O ports 12 and 13 are reconfigured as

output ports based on the information read from module 7 (Titherley: EPROM

2716), which is an actuation of a switch. [Titherley: Column 4, lines 25-37]

Titherley does not teach program execution only depending on information in the

at least one information register of the microcontroller, which is special for each

microcontroller step without other external or operator influences.

It is the opinion of the examiner that all this simply describes is the functionality of

Plug and Play, a term coined by (though not explicitly trademarked) Microsoft and Intel

prior to the release of Windows95. Plug and Play was developed by Microsoft in

conjunction with Intel and other hardware manufactures with the intent to be able to plug

in a peripheral and not have to do anymore external configuration (i.e. jumpers,

switches) or software configuration (i.e. config files). While the idea was actually

originated by Macintosh and bus protocols such as EISA and MCA, Plug and Play was

the ISA that brought the concept into the mainstream.

The idea behind plug and play is to be able to isolate and identify each component connected to the system and then configure it to work with that system (PnPISA: 3.2-3.3.2).

The advantages of using a plug and play like functionality are plentiful and apparent (PnPISA: 1.1). An article sent to the applicant by Halfhill also outlines other aspects brought on by plug and play, mainly financial savings spurred by decreased complexity, which lowered tech support costs.

It is easy to see that this aspect has trickled into other portions of computing. Applied to Titherley, this would mean that user input would no longer be necessary since the system would be able to detect what the device was and what test needed to be performed; the steps outlines in Titherley column 4, lines 46-64 would be automated. This is similar to the PnP power-on self-test, or POST.

Therefore, it would have been obvious to one of ordinary skill in the pertinent art at the time of the applicant's invention that applying plug and play functionality to Titherley would be able reduce the complexity of the system, which is a burden to the user, and thus automate the system.

11.   As per claim 7, Titherley teaches the control element according to claim 6, wherein: the computing element includes the at least one microprocessor: the computing element is Microprocessor 8085A. [Titherley: Figure 2]

12.   As per claim 8, Titherley teaches the control element according to claim 6, wherein: the storage medium includes one of a read only memory and a flash memory: The storage medium is EPROM 2716. [Titherley: Figure 2]

13.   As per claim 10, Titherley teaches a microcontroller, comprising:

l.   At least one microprocessor (Titherley: 8085A Microprocessor, figure 2)

including a program that is executable on the at least one microprocessor:

Multiple routines are executed by the microprocessor. [Titherley: Column 3, lines

23-33, and line 66 to column 4, line 6, column 4, lines 25-64]

m.   At least one information register: EPROM 2716, (Titherley: module 7), is

contains addressable information. [Titherley: Column 4, lines 25-50]

n.   An arrangement for reading in information regarding a hardware of the

microcontroller from the at least one information register: EPROM 2716 is made

up of addressable memory locations (i.e., registers), which contain information

regarding hardware of the microcontroller (made up of all of figure 2 except the

peripheral under test, module 8). [Titherley: Column 4, lines 25 to column 5,

lines 14]

o.   And at least one switch actuatable as a function of the information read in:

The I/O ports 12 and 13 are reconfigured as output ports based on the

information read from module 7 (Titherley: EPROM 2716), which is an actuation

of a switch. [Titherley: Column 4, lines 25-37]

p.   And for controlling a run of the program executable on the at least one

microprocessor: The I/O ports 12 and 13 are reconfigured as output ports based

on the information read from module 7 (Titherley: EPROM 2716), which are used

for controlling a run of the program executable. Data is passed through the I/O

that affects the control of the program. [Titherley: Column 4, lines 25 to column 5, line 40]

Titherley does not teach program execution only depending on information in the at least one information register of the microcontroller, which is special for each microcontroller step without other external or operator influences.

It is the opinion of the examiner that all this simply describes is the functionality of Plug and Play, a term coined by (though not explicitly trademarked) Microsoft and Intel prior to the release of Windows95. Plug and Play was developed by Microsoft in conjunction with Intel and other hardware manufactures with the intent to be able to plug in a peripheral and not have to do anymore external configuration (i.e. jumpers, switches) or software configuration (i.e. config files). While the idea was actually originated by Macintosh and bus protocols such as EISA and MCA, Plug and Play was the ISA that brought the concept into the mainstream.

The idea behind plug and play is to be able to isolate and identify each component connected to the system and then configure it to work with that system (PnPISA: 3.2-3.3.2).

The advantages of using a plug and play like functionality are plentiful and apparent (PnPISA: 1.1). An article sent to the applicant by Halfill also outlines other aspects brought on by plug and play, mainly financial savings spurred by decreased complexity, which lowered tech support costs.

It is easy to see that this aspect has trickled into other portions of computing. Applied to Titherley, this would mean that user input would no longer be necessary

since the system would be able to detect what the device was and what test needed to

be performed; the steps outlines in Titherley column 4, lines 46-64 would be automated.

This is similar to the PnP power-on self-test, or POST.

Therefore, it would have been obvious to one of ordinary skill in the pertinent art

at the time of the applicant's invention that applying plug and play functionality to

Titherley would be able reduce the complexity of the system, which is a burden to the

user, and thus automate the system.

14.   As per claim 11, Titherley teaches the microcontroller according to claim 10,

wherein: the information read in corresponds to at least one of the at least one

microprocessor of the microcontroller and at least one additional component of the

microcontroller: The information read in corresponds to the Ports 12 and 13, an

additional component of the microcontroller, because the information is used for

initializing them. [Titherley: Column 4, lines 25-64]

15.   As per claim 12, Titherley teaches the microcontroller according to claim 11,

wherein: the information regarding the at least one additional component of the

microcontroller includes information about at least one of an internal storage element,

an analog/digital (A/D) converter, a digital/analog (D/A) converter, and at least one

databus: The information read in reconfigures the I/O ports 12 and 13, which are used

to communicate with the peripheral under test via data buses. The information read is

about data buses because it determines how the ports are configured and therefore

how the data buses will be used. [Titherley: Figure 2, column 4, lines 25-45 Column 3,

lines 23-48]

16.   As per claim 13, Titherley teaches the microcontroller according to claim 10,
wherein: the microcontroller is part of a testing device for testing at least one of an
additional microcontroller, a control unit, and the program executable on the at least one
microprocessor: The microcontroller shown in figure 2 (all components except
Peripheral Under Test, module 8) is for testing peripheral devices, and the example
microcontroller is a disc drive. [Titherley: Column 4, line 25 to column 5, line 40]

17.   As per claim 14, Titherley teaches the microcontroller according to claim 10,
wherein: the microcontroller is part of a control unit for controlling/regulating technical
operations and processes. The microcontroller is for testing and exercising external
devices or running self-diagnostic routines, which are technical operations and
processes. [Titherley: Column 3, line 66 to column 4, line 6 and abstract]

18.   As per claim 16, Titherley teaches the method according to claim 2, wherein:

q.   The information regarding the at least one additional component of the
microcontroller includes information about at least one of an internal storage
element, an analog/digital (A/D) converter, a digital/analog (D/A) converter, and
at least one databus: The information read in reconfigures the I/O ports 12 and
13, which are used to communicate with the peripheral under test via data buses.
The information read is about data buses because it determines how the ports
are configured and therefore how the data buses will be used. [Titherley: Figure
2, column 4, lines 25-45 Column 3, lines 23-48]

19.   As per claim 17, Titherley teaches the control element according to claim 6,
wherein:

r.   The information read in corresponds to at least one of the at least one

microprocessor of the microcontroller and at least one additional component of

the microcontroller: The information read in corresponds to the Ports 12 and 13,

an additional component of the microcontroller, because the information is used

for initializing them. [Titherley: Column 4, lines 25-64]

20.   As per claim 18, Titherley teaches the control element according to claim 17,

wherein:

s.   The information regarding the at least one additional component of the

microcontroller includes information about at least one o fan internal storage

element, an analog/digital (A/D) converter, a digital/analog (D/A) converter, and

at least one databus. The information read in reconfigures the I/O ports 12 and

13, which are used to communicate with the peripheral under test via data buses.

The information read is about data buses because it determines how the ports

are configured and therefore how the data buses will be used. [Titherley: Figure

2, column 4, lines 25-45 Column 3, lines 23-48]

21.   As per claim 19, Titherley teaches the method according to claim 1, wherein

t.   The program run is controlled by one of activating and deactivating at

least one of command sequences for specific features of the microcontroller and

workarounds: (The testing program, once initialization is completed, allocates

specific functions to the keys S1-S5. These test specific features of whatever

peripheral is attached to the testing device via I/O connector 6 (Titherley: shown

in figure 2). Activating the specific testing command sequence occurs when any

of the keys S1-S5 is pressed, and deactivating the command sequence occurs

when the tests are finished. For instance, when S1 is pressed (activating), the

drive will step to a specified track number, "then return to the routine which

outputs the drive status and awaits a further key operation" (deactivating).

[Titherley: Column 4, line 55 to column 5, lines 40]

22.   As per claim 20, Titherley teaches the method of claim 1, wherein:

u.   The information read in corresponds to at least one of a manufacture,

model, type and size of components of the microcontroller: The information is

used to initialize components of a certain manufacture, model and type, and

therefore corresponds to a manufacture, model and type. [Titherley: Column 4,

lines 25-45]

23.   As per claim 21, Titherley teaches the control element of claim 6, wherein:

v.   The information read in corresponds to at least one of a manufacture,

model, type and size of components of the microcontroller: The information is

used to initialize components of a certain manufacture, model and type, and

therefore corresponds to a manufacture, model and type. [Titherley: Column 4,

lines 25-45]

24.   As per claim 22, Titherley teaches the microcontroller according to claim 10,

wherein:

w.   The information read in corresponds to at least one of a manufacture,

model, type and size of components of the microcontroller: The information is

used to initialize components of a certain manufacture, model and type, and

therefore corresponds to a manufacture, model and type. [Titherley: Column 4, lines 25-45]

25.   As per claim 23, Titherley teaches the method according to claim 1, wherein the information is read in from a read-only information register: [Titherley: EPROM 2716, figure 2 and col. 4, lines 25-40.]

26.   Given the similarities between claim 23 and claims 24 and 25, the arguments as stated for the rejection of claim 23 also apply to claims 24 and 25.

27.   As per claim 26, Titherley teaches the method according to claim 1, wherein the program run occurs without external intervention for operating or displaying as to a program time sequence: [The program run requires the hardware shown in figure 2 and the operator. No external intervention from anything outside the hardware of figure 2 and the operator is necessary. Therefore, the program run occurs without external intervention for operating or displaying.]

28.   Given the similarities between claim 26 and claims 27 and 28, the arguments as stated for the rejection of claim 26 also apply to claims 27 and 28.

29.   As per claim 29, Titherley teaches the method according to claim 1, wherein there is only one control program for different hardware configurations: [Module 7 contains a number of routines which constitute one control program which can control multiple different hardware configurations dependent on the data input by the operator. Col. 4, line 55 to col. 5, line 37.]

30.   Given the similarities between claim 29 and claims 30 and 31, the arguments as stated for the rejection of claim 29 also apply to claims 30 and 31.

31.   As per claim 32:

Titherley teaches a method for controlling a run of a program executable on at

least one microprocessor of a microcontroller, comprising:

reading in information regarding a hardware of the microcontroller from at least

one information register of the microcontroller . [Titherley: Column 4, lines 25-64]; and

actuating at least one switch via which the program run is controlled as a function

of the information read in [Titherley: Column 4, lines 25-64]

wherein the program is executable using at least two different microcontroller

steps, and that in the at least one information register of the microcontroller, the

information directly relates to hardware of a special microcontroller step and that,

depending on this information, execution of the program is switchable so that only

program parts are executed which are necessary for the special microcontroller step, so

that the execution of the program is directly related to the special microcontroller step.

[Titherley: Column 4, lines 25-64] (The information contained in module 7 directly

relates to the peripheral being tested. Upon reading the module, the monitor configures

the ports of devices 12 and 13 to perform the specific tasks needed to test the

peripheral).

Through the use of plug and play, motivation for which has been described

above, the monitor will then be able to execute tests absent of user input since it is

known which device is being tested.

32.   Claims 5, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Titherley, U.S. Patent 4,489,414 in combination with PnPISA in view of Simar Jr. et

al., U.S. Patent 6,182,203, herein referred to as Simar.

33.   As per claim 5, Titherley teaches the method according to claim 4, wherein the

invention shown in figure 2 is a portable, self-contained, engineer's diagnostic tool with

can be used independent of a host computer for testing and controlling (during testing)

of another device it is attached to. However, Titherley fails to further teach wherein the

diagnostic tool is used for testing a device within a motor vehicle, and therefore fails to

teach the technical operations and processes relate to a motor vehicle.

34.   Simar teaches the use of processors in engine control units for motor vehicles in

Figure 83 and column 88, lines 36-59. Simar also specifically teaches the use of their

processor for real-time applications being used in engine control in column 88, lines 36-

59.

35.   It would have been obvious to one of ordinary skill in the art to use the disclosed

portable diagnostic processor of Titherley to test a vehicle because it is portable and

can be used independently of a host computer, which one of ordinary skill in the art

would have recognized as being a benefit when testing device in a motor vehicle. This

would have provided the motivation to use the invention of invention Titherley to test

devices within a motor vehicle, and therefore having the technical operations and

processes relating to a motor vehicle.

36.   As per claim 9, Titherley teaches the control element according to claim 6

wherein the invention shown in figure 2 is a portable, self-contained, engineer's

diagnostic tool with can be used independent of a host computer for testing and

controlling (during testing) of another device it is attached to. However, Titherley fails to

further teach wherein the control element is for a control unit of an internal combustion

engine and wherein the internal combustion engine is of a motor vehicle.

37.   Simar teaches the use of processors in engine control units for motor vehicles in

Figure 83 and column 88, lines 36-59. Simar also specifically teaches the use of their

processor for real-time applications being used in engine control in column 88, lines 36-

59.

38.   It would have been obvious to one of ordinary skill in the art to use the disclosed

portable diagnostic processor of Titherley to test a vehicle because it is portable and

can be used independently of a host computer, which one of ordinary skill in the art

would have recognized as being a benefit when testing a device in a motor vehicle.

This would have provided the motivation to use the invention of Titherley to test devices

within a motor vehicle, and therefore having the control element for a control unit of an

internal combustion engine of a motor vehicle.

39.   As per claim 15, Titherley teaches the microcontroller according to claim 14

wherein the invention shown in figure 2 is a portable, self-contained, engineer's

diagnostic tool with can be used independent of a host computer for testing and

controlling (during testing) of another device it is attached to. However, Titherley fails to

further teach wherein: the technical operations and processes relate to a motor vehicle.

40.   Simar teaches the use of processors in engine control units for motor vehicles in

Figure 83 and column 88, lines 36-59. Simar also specifically teaches the use of their

processor for real-time applications being used in engine control in column 88, lines 36-

59.

41.   It would have been obvious to one of ordinary skill in the art to use the disclosed

portable diagnostic processor of Titherley to test a vehicle's microcontrollers because it

is portable and can be used independently of a host computer, which one of ordinary

skill in the art would have recognized as being a benefit when testing device in a motor

vehicle. This would have provided the motivation to use the invention of invention

Titherley to test devices within a motor vehicle, and therefore having the technical

operations and processes relating to a motor vehicle.

Response to Arguments

42.   Applicant's arguments with respect to claims 1-32 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

43.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

44.   Boutterin et al. (US Patent 4,639,916) teaches an automatic method and

machine for the simultaneous testing of data processing systems. It enables a user to

setup the initialization of the system by entering configuration data and then allowing the

system to automatically select and run tests based on this configuration.

45.   Martin et al. (US Patent 5,422,305) teaches a debugging device that is able to

take input from multiple peripherals and run tests on them.

Please note that the junior examiner of record has changed. Any inquiry

concerning this communication or earlier communications from the examiner

should be directed to Ryan P. Fiegle whose telephone number is 571-272-5534.

The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Eddie Chan can be reached on 571-272-4162. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ryan P Fiegle
Examiner
Art Unit 2183

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